Complete Summary

GUIDELINE TITLE

Diagnosis and management of head and neck cancer. A national clinical guideline.

BIBLIOGRAPHIC SOURCE(S)

Scottish Intercollegiate Guidelines Network (SIGN). Diagnosis and management of head and neck cancer. A national clinical guideline. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network (SIGN); 2006 Oct. 90 p. (SIGN publication; no. 90). [511 references]

GUIDELINE STATUS

This is the current release of the guideline.

Any amendments to the guideline in the interim period will be noted on Scottish Intercollegiate Guidelines Network (SIGN) Web site.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Head and neck cancer, specifically:

- Laryngeal cancer
- Hypopharyngeal cancer
- Oropharyngeal cancer
- Oral cavity cancer

Note: Management of tumors of the nasopharynx, sinuses, salivary glands, or thyroid are excluded from the guideline.

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management
Rehabilitation
Treatment

CLINICAL SPECIALTY

Dentistry
Family Practice
Internal Medicine
Nursing
Nutrition
Oncology
Otolaryngology
Physical Medicine and Rehabilitation
Plastic Surgery
Radiation Oncology
Speech-Language Pathology
Surgery

INTENDED USERS

Allied Health Personnel
Dentists
Dietitians
Health Care Providers
Nurses
Physicians
Speech-Language Pathologists

GUIDELINE OBJECTIVE(S)

To follow the patient's journey of care from prevention and awareness through treatment to follow up and rehabilitation, making generic recommendations which hold for all head and neck cancers

TARGET POPULATION

Patients at risk for or who have the following head and neck cancers: laryngeal cancer, hypopharyngeal cancer, oropharyngeal cancer, or oral cavity cancer

INTERVENTIONS AND PRACTICES CONSIDERED

Prevention

1. Smoking and chewing tobacco cessation
2. Alcohol limitation
3. Alcohol counseling services

4. Dietary counseling
5. Prevention leaflet availability

Diagnosis

1. Fine needle aspiration
2. Endoscopy
3. Chest x-ray
4. Computed tomography (CT) scan
5. Magnetic resonance imaging (MRI)
6. Fluorodeoxy glucose positron emission tomography (FDG-PET)

Prognostic Studies

1. Tumor-node-metastasis (TNM) staging
2. Human papillomavirus (HPV) subtyping
3. Proliferation indices/molecular markers

Initial Treatment

1. Surgery
    - Radical neck dissection
    - Modified radical neck dissection
    - Tumor resection
    - Endoscopic laser excision
    - Reconstructive surgery
2. External-beam radiotherapy
    - Conventional fractionation
    - Hypofractionation
    - Hyperfractionation
    - Accelerated fractionation
    - Decreased total dose and very accelerated fractionation
    - Modified fractionation and chemotherapy
3. Brachytherapy
4. Prevention of radiation-induced side effects
    - Benzydamine oral rinse to prevent mucositis
    - Pilocarpine for xerostomia
    - Amifostine for xerostomia (not recommended)
5. Adjuvant radiotherapy following surgery
6. Chemotherapy in combination with surgery (neoadjuvant and adjuvant chemotherapy are not recommended)
7. Radiotherapy and concurrent chemotherapy with cisplatin, cisplatin/5-fluorouracil (5FU), cisplatin/5FU/docetaxel
8. Radiotherapy and concurrent monoclonal antibody therapy with cetuximab

Treatment of Recurrence

1. Salvage surgery
2. Re-irradiation
3. Brachytherapy

Palliation

1. Chemotherapy with methotrexate, cisplatin, cisplatin/5FU, or cisplatin/5FU/cytarabine
2. Radiotherapy
3. Surgery

Rehabilitation

1. Oral and dental rehabilitation
2. Speech and language therapy
3. Nutrition support
4. Patient support
5. Follow-up

MAJOR OUTCOMES CONSIDERED

- Incidence of head and neck cancer
- Recurrence rate
- Survival rate
- Quality of life

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The evidence base for this guideline was synthesised in accordance with Scottish Intercollegiate Guidelines Network (SIGN) methodology. A systematic review of the literature was carried out using an explicit search strategy devised by a SIGN Information Officer. Databases searched include Medline, Embase, Cinahl, and the Cochrane library. The year range covered was 1998-2004, although searches for certain questions went back to 1990. Internet searches were carried out on various websites including the New Zealand Guidelines Programme, the Canadian Medical Association, National Electronic Library for Health (NeLH) Guidelines Finder, and the US National Guidelines Clearinghouse. The Medline version of the main search strategies can be found on the SIGN website, in the section covering supplementary guideline material. The main searches were supplemented by material identified by individual members of the development group. Each of the selected papers was evaluated by two members of the group using standard SIGN methodological checklists before conclusions were considered as evidence.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence

1++: High quality meta-analyses, systematic reviews of randomised controlled trials (RCTs), or RCTs with a very low risk of bias

1+: Well-conducted meta-analyses, systematic reviews of RCTs, or RCTs with a low risk of bias

1-: Meta-analyses, systematic reviews of RCTs, or RCTs with a high risk of bias

2++: High quality systematic reviews of case control or cohort studies
High quality case control or cohort studies with a very low risk of confounding or bias and a high probability that the relationship is causal

2+: Well-conducted case control or cohort studies with a low risk of confounding or bias and a moderate probability that the relationship is causal

2-: Case control or cohort studies with a high risk of confounding or bias and a significant risk that the relationship is not causal

3: Non-analytic studies (e.g., case reports, case series)

4: Expert opinion

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Once papers have been selected as potential sources of evidence, the methodology used in each study is assessed to ensure its validity. The result of this assessment will affect the level of evidence allocated to the paper, which will in turn influence the grade of recommendation that it supports.

The methodological assessment is based on a number of key questions that focus on those aspects of the study design that research has shown to have a significant influence on the validity of the results reported and conclusions drawn. These key questions differ between study types, and a range of checklists is used to bring a degree of consistency to the assessment process. Scottish Intercollegiate Guidelines Network (SIGN) has based its assessments on the Method for Evaluating Research and Guideline Evidence (MERGE) checklists developed by the New South Wales Department of Health, which have been subjected to wide

consultation and evaluation. These checklists were subjected to detailed evaluation and adaptation to meet SIGN's requirements for a balance between methodological rigour and practicality of use.

The assessment process inevitably involves a degree of subjective judgment. The extent to which a study meets a particular criterion (e.g., an acceptable level of loss to follow up) and, more importantly, the likely impact of this on the reported results from the study will depend on the clinical context. To minimise any potential bias resulting from this, each study must be evaluated independently by at least two group members. Any differences in assessment should then be discussed by the full group. Where differences cannot be resolved, an independent reviewer or an experienced member of SIGN Executive staff will arbitrate to reach an agreed quality assessment.

Evidence Tables

Evidence tables are compiled by SIGN executive staff based on the quality assessments of individual studies provided by guideline development group members. The tables summarise all the validated studies identified from the systematic literature review relating to each key question. They are presented in a standard format to make it easier to compare results across studies, and will present separately the evidence for each outcome measure used in the published studies. These evidence tables form an essential part of the guideline development record and ensure that the basis of the guideline development group's recommendations is transparent.

Additional details can be found in the companion document titled "SIGN 50: A Guideline Developers' Handbook." (Edinburgh [UK]: Scottish Intercollegiate Guidelines Network. [SIGN publication; no. 50]), available from the SIGN Web site.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Synthesising the Evidence

Guideline recommendations are graded to differentiate between those based on strong evidence and those based on weak evidence. This judgment is made on the basis of an (objective) assessment of the design and quality of each study and a (perhaps more subjective) judgment on the consistency, clinical relevance and external validity of the whole body of evidence. The aim is to produce a recommendation that is evidence-based, but which is relevant to the way in which health care is delivered in Scotland and is therefore implementable.

It is important to emphasise that the grading does not relate to the importance of the recommendation, but to the strength of the supporting evidence and, in particular, to the predictive power of the study designs from which that data was

obtained. Thus, the grading assigned to a recommendation indicates to users the likelihood that, if that recommendation is implemented, the predicted outcome will be achieved.

Considered Judgment

It is rare for the evidence to show clearly and unambiguously what course of action should be recommended for any given question. Consequently, it is not always clear to those who were not involved in the decision making process how guideline developers were able to arrive at their recommendations, given the evidence they had to base them on. In order to address this problem, Scottish Intercollegiate Guidelines Network (SIGN) has introduced the concept of considered judgment.

Under the heading of considered judgment, guideline development groups summarise their view of the total body of evidence covered by each evidence table. This summary view is expected to cover the following aspects:

- Quantity, quality, and consistency of evidence
- Generalisability of study findings
- Directness of application to the target population for the guideline
- Clinical impact (i.e., the extent of the impact on the target patient population, and the resources needed to treat them)
- Implementability (i.e., how practical it would be for the National Health Service [NHS] in Scotland to implement the recommendation)

Guideline development groups are provided with a pro forma in which to record the main points from their considered judgment. Once they have considered these issues, the group is asked to summarise their view of the evidence and assign a level of evidence to it, before going on to derive a graded recommendation.

Additional detail about SIGN's process for formulating guideline recommendations is provided in Section 6 of the companion document titled "SIGN 50: A Guideline Developers' Handbook." (Edinburgh [UK]: Scottish Intercollegiate Guidelines Network. [SIGN publication; no. 50], available from the SIGN Web site.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Grades of Recommendation

Note: The grade of recommendation relates to the strength of the evidence on which the recommendation is based. It does not reflect the clinical importance of the recommendation.

A: At least one meta-analysis, systematic review of randomized controlled trials (RCTs), or RCT rated as 1++ and directly applicable to the target population; *or*

A body of evidence consisting principally of studies rated as 1+, directly applicable to the target population, and demonstrating overall consistency of results

B: A body of evidence including studies rated as 2++, directly applicable to the target population, and demonstrating overall consistency of results; *or*

Extrapolated evidence from studies rated as 1++ or 1+

C: A body of evidence including studies rated as 2+, directly applicable to the target population and demonstrating overall consistency of results; *or*

Extrapolated evidence from studies rated as 2++

D: Evidence level 3 or 4; *or*

Extrapolated evidence from studies rated as 2+

Good Practice Points: Recommended best practice based on the clinical experience of the guideline development group

COST ANALYSIS

Published cost analyses were reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The national open meeting is the main consultative phase of Scottish Intercollegiate Guidelines Network (SIGN) guideline development. The national open meeting for this guideline was held on 21st September 2004 and attended by representatives of all the key specialists relevant to the guideline.

Peer Review

All SIGN guidelines are reviewed in draft form by independent expert referees, who are asked to comment primarily on the comprehensiveness and accuracy of interpretation of the evidence base supporting the recommendations in the guideline. A number of general practitioners (GPs) and other primary care practitioners also provide comments on the guideline from the primary care perspective, concentrating particularly on the clarity of the recommendations and their assessment of the usefulness of the guideline as a working tool for the primary care team. The draft is also sent to a lay reviewer in order to obtain comments from the patient's perspective. The comments received from peer reviewers and others are carefully tabulated and discussed with the chairman and with the guideline development group. Each point must be addressed and any changes to the guideline as a result noted or, if no change is made, the reasons for this recorded.

As a final quality control check prior to publication, the guideline and the summary of peer reviewers' comments are reviewed by the SIGN Editorial Group for that

guideline to ensure that each point has been addressed adequately and that any risk of bias in the guideline development process as a whole has been minimised. Each member of the guideline development group is then asked formally to approve the final guideline for publication.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Note from the Scottish Intercollegiate Guidelines Network (SIGN) and National Guideline Clearinghouse (NGC)*: In addition to these evidence-based recommendations, the guideline development group also identifies points of best clinical practice in the full-text guideline document.*

The grades of recommendations (A-D) and levels of evidence (1++, 1+, 1-, 2++, 2+, 2-, 3, 4) are defined at the end of the "Major Recommendations" field.

Presentation, Screening and Risk Factors

Risk Factors

Smoking and Tobacco Use

B - The population of Scotland should be discouraged from smoking or chewing tobacco.

D - Healthcare professionals should put people in contact with the appropriate smoking cessation services.

C - Patients with precancerous oral lesions who use tobacco should be advised to give up.

Alcohol Consumption

B - The population of Scotland should be encouraged to limit their alcohol consumption, in line with government recommended guidelines.

D - Healthcare professionals should put people in contact with the appropriate alcohol counselling service.

Dietary Factors

C - The population of Scotland should be encouraged to increase their intake of fruit and vegetables (specifically tomatoes), olive oil and fish oils.

C - The population of Scotland should be encouraged to reduce their intake of red meat, fried food and fat.

Public Awareness

B - Leaflets about signs, symptoms and risks of head and neck cancer should be available in primary care.

Referral and Diagnosis

Referral

D - Rapid access or "one stop" clinics should be available for patients who fulfil appropriate referral criteria.

Diagnosis and Staging

Investigating Neck Lumps

D - Fine needle aspiration cytology should be used in the investigation of head and neck masses.

Endoscopy

D - All patients with head and neck cancer should have direct pharyngolaryngoscopy and chest X-ray with symptom-directed endoscopy where indicated.

Imaging the Primary Tumour

D - Computed tomography (CT) or magnetic resonance imaging (MRI) of the primary tumour site should be performed to help define the tumour (T) stage of the tumour.

D - MRI should be used to stage oropharyngeal and oral tumours.

D - MRI should be used in assessing:

- Laryngeal cartilage invasion
- Tumour involvement of the skull base, orbit, cervical spine or neurovascular structures (*most suprahyoid tumours*)

Imaging Neck Nodes

D - CT or MRI from skull-base to sternoclavicular joints should be performed in all patients at the time of imaging the primary tumour to stage the neck for nodal metastatic disease.

B - Where the nodal staging on CT or MRI is equivocal, ultrasound-guided fine needle aspiration (USFNA) and/or fluorodeoxyglucose positron emission tomography (FDG-PET) increase the accuracy of nodal staging.

Imaging for Distant Metastases and Synchronous Tumours

D - All patients with head and neck cancer should undergo CT of the thorax.

Metastatic Cervical Lymph Nodes with Unknown Primary

C - In patients presenting with cervical lymph node metastases, where CT or MRI does not demonstrate an obvious primary tumour, FDG-PET should be performed as the next investigation of choice.

Restaging Patients with Suspected Recurrent Disease

C - In patients presenting with suspected recurrent head and neck cancer, where CT/MRI does not demonstrate a clear cut recurrence, FDG-PET should be performed as the next investigation of choice.

Histopathology Reporting

Recommended Essential Data Items

Primary Site

C - Histopathology reporting of specimens from the primary site of head and neck cancer should include:

- Tumour site
- Tumour grade
- Maximum tumour dimension
- Maximum depth of invasion
- Margin involvement by invasive and/or severe dysplasia
- Pattern of infiltration
- Perineural involvement
- **D** - Tumour type

Metastatic Disease

C - Histopathology reporting of specimens from areas of metastatic disease in patients with head and neck cancer should include:

- Number of involved nodes
- Level of involved nodes
- Extracapsular spread of tumour

Overview and Treatment of the Primary Tumour and Neck

C - Patients with head and neck cancer, especially those planned for resection of oral cancers or whose teeth are to be included in a radiotherapy field, should have the opportunity for a pre-treatment assessment by an appropriately experienced dental practitioner.

Management of Clinically Node Negative Neck

C - Patients with a clinically node negative (N0) neck, with more than 20% risk of occult nodal metastases, should be offered prophylactic treatment of the neck,

either by appropriate selective or modified radical neck dissection or by external beam radiotherapy.

Management of Clinically Node Positive Neck

D - Patients with clinically N1 disease should be treated by appropriate neck dissection or radical radiotherapy (*with or without chemotherapy*).

D - In patients with clinically N1 disease and a complete clinical response to radiotherapy, observation rather than further surgical management is recommended.

D - Following neck dissection for clinically N1 disease, adjuvant postoperative radiotherapy must be considered for those patients who are at high risk of locoregional recurrence.

D - Patients with clinical N2 or N3 disease should be treated either by:

- Comprehensive neck dissection followed by external beam radiotherapy, or
- Radical radiotherapy followed by comprehensive neck dissection

D - In patients where the primary tumour is small and the nodal disease is resectable, neck dissection may be performed before treating both the primary tumour and the neck with radiotherapy (*with or without chemotherapy*).

Treatment: Radiotherapy as the Major Treatment Modality

Modified Fractionation

Modified Fractionation and Chemotherapy

A - Where radiotherapy is the primary treatment modality, moderately accelerated schedules (*six fractions/week*) or hyperfractionated schedules with increased total dose should be considered for patients with head and neck cancer (*except T1-3 glottic or supraglottic*) who are unable to receive concurrent chemotherapy or cetuximab.

Interruptions to Planned Radiotherapy Treatment Schedules

C - Interrupting and prolonging a course of radical radiotherapy should be avoided.

Brachytherapy

D - Patients with small accessible (*T1/2*) tumours of the oral cavity and oropharynx may be treated by interstitial brachytherapy to a dose of 65-70Gy at a dose rate of less than 0.55Gy/hour.

Prevention and Treatment of Radiation Side Effects

Prevention and Treatment of Radiation-Induced Mucositis

A - Patients with oral cavity, laryngeal, oropharyngeal or hypopharyngeal tumours who are being treated with radiotherapy should be offered benzydamine oral rinse before, during, and up to three weeks after completion of radiotherapy.

Prevention and Treatment of Radiation-Induced Xerostomia

A - Pilocarpine (*5 to 10 mg three times per day*) may be offered to improve radiation-induced xerostomia following radiotherapy to patients with evidence of some intact salivary function, providing there are no medical contraindications to its use.

Treatment: Surgery as the Major Treatment Modality

Resection

D - If an inadequate initial excision biopsy has been performed or if the tumour has been excised with positive excision margins, re-resection should be considered.

Adjuvant Radiotherapy Following Surgery

C - Postoperative radiotherapy should be considered following surgical resection of oral cavity, oropharyngeal, laryngeal and hypopharyngeal cancers for patients with the following adverse risk features:

- Oral cavity primary tumour
- Advanced T stage
- Close or positive surgical margins
- Perineural invasion
- Lymphovascular invasion
- Any positive lymph nodes, but especially if more than one node is positive
- Positive nodes at level IV (lower internal jugular nodes) or V (posterior triangle nodes)
- Any node 3 cm or greater
- Extracapsular lymph node spread

A - Postoperative radiotherapy should be conventionally fractionated:

- 54-60Gy in 27-30 fractions over 5.5-6 weeks to the primary site and nodes at risk
- 66Gy in 33 fractions over 6.5 weeks to areas of very high risk

B - Overall treatment time from surgery to completion of radiotherapy should be 10-11 weeks or less in the absence of postoperative medical or surgical complications.

A - In patients with extracapsular spread and/or positive surgical margins, who are medically fit, postoperative concurrent chemoradiotherapy with single agent cisplatin and conventionally fractionated radiotherapy should be considered.

Treatment: Chemotherapy in Combination with Surgery or Radiotherapy

Chemotherapy with Locoregional Therapy

A - In patients with locally advanced non-metastatic squamous carcinoma of the oral cavity, oropharynx, larynx and hypopharynx, who are medically fit for chemotherapy, (*especially those aged 70 or under*), concurrent chemoradiotherapy should be considered rather than radiotherapy alone if:

- Organ preservation is being pursued
- The primary tumour is unresectable

A - Single agent cisplatin is recommended as the chemotherapeutic agent of choice in concurrent chemoradiotherapy.

A - The routine use of neoadjuvant chemotherapy in oral cavity, oropharyngeal and laryngeal cancer is not recommended.

A - Neoadjuvant cisplatin/5-fluorouracil (5FU) followed by radical radiotherapy alone may be used in patients with locally advanced resectable hypopharyngeal cancers who have a complete response to chemotherapy.

A - The routine use of adjuvant chemotherapy following radiotherapy is not recommended.

A - The routine use of neoadjuvant or adjuvant chemotherapy in combination with surgery is not recommended.

A - Concurrent chemoradiotherapy should only be administered where there are appropriate facilities for monitoring toxicity, with rapid access to appropriate outpatient and inpatient support for the treatment of acute radiotherapy and chemotherapy toxicity.

Cetuximab in Addition to Radiotherapy

A - In patients undergoing radical radiotherapy for locally advanced head and neck cancer, who are medically unfit for concurrent chemoradiotherapy, concurrent administration of cetuximab with radiotherapy should be considered.

Treatment: Management of Locoregional Recurrence

Salvage Surgery after Previous Radiotherapy or Surgery

D - Salvage surgery should be considered in any patient with a resectable locoregional recurrence of oral cavity, oropharyngeal, laryngeal or hypopharyngeal cancer following previous radiotherapy or surgery.

Radiotherapy and Re-irradiation

D - Selected patients who have unresectable locally recurrent disease following previous radiotherapy may be considered for potentially curative re-irradiation.

D - Patients with small accessible recurrences in a previously irradiated region may be considered for interstitial brachytherapy in centres with appropriate facilities and expertise.

Treatment: Palliation of Incurable Disease

Palliative Chemotherapy

A - Patients of adequate performance status should be considered for palliative chemotherapy which may reduce tumour volume.

A - Single agent methotrexate, single agent cisplatin, or cisplatin/5FU combination should be considered for palliative chemotherapy in patients with head and neck cancer.

A - Excessive toxicity from intensive chemotherapeutic combination regimens should be avoided.

Palliative Radiotherapy

D - Radiotherapy may be considered for palliative treatment in patients with locally advanced incurable head and neck cancer.

Laryngeal Cancer

Early Laryngeal Cancer (Stage I and II)

Early Glottic Cancer

D - Patients with early glottic cancer may be treated either by external beam radiotherapy or conservation surgery.

B - When external beam radiotherapy is used as the primary treatment modality in patients with early glottic cancer, hypofractionated regimens with fraction size >2Gy (*e.g., 53-55Gy in 20 fractions over 28 days or 50-52Gy in 16 fractions over 22 days*) without concurrent chemotherapy should be used.

D - Surgery for patients with early glottic cancer may be either endoscopic laser excision or partial laryngectomy.

D - Prophylactic treatment of the neck nodes is not required for patients with early glottic cancer.

Early Supraglottic Cancer

D - Patients with early supraglottic cancer may be treated by either external beam radiotherapy or conservation surgery.

D - Radiotherapy for patients with early supraglottic cancer should include prophylactic bilateral treatment of levels II-III lymph nodes (upper and middle internal jugular nodes) in the neck.

D - Endoscopic laser excision or supraglottic laryngectomy with selective neck dissection to include levels II-III nodes should be considered for patients with early supraglottic cancer.

D - Neck dissection should be bilateral if the tumour is not well lateralised.

Locally Advanced Laryngeal Cancer (Stage III and IV)

A - Patients with locally advanced resectable laryngeal cancer should be treated by:

- Total laryngectomy with or without postoperative radiotherapy
- An initial organ preservation strategy reserving surgery for salvage

A - Treatment for organ preservation or non-resectable disease should be concurrent chemoradiation with single agent cisplatin.

A - In patients medically unsuitable for chemotherapy, concurrent administration of cetuximab with radiotherapy should be considered.

A - Radiotherapy should only be used as a single modality when comorbidity precludes the use of concurrent chemotherapy, concurrent cetuximab or surgery.

A - Where radiotherapy is being used as a single modality without concurrent chemotherapy or cetuximab, a modified fractionation schedule should be considered.

D - In patients with clinically N0 disease, nodal levels II-IV should be treated prophylactically by:

- Surgery (*selective neck dissection*)
- External beam radiotherapy

If the tumour is not well lateralised both sides of the neck should be treated.

D - Patients with a clinically node positive neck should be treated by:

- Modified radical neck dissection, with postoperative chemoradiotherapy or radiotherapy when indicated
- Chemoradiotherapy followed by neck dissection when there is clinical evidence of residual disease following completion of therapy (*N1 disease*)
- Chemoradiotherapy followed by planned neck dissection (*N2 and N3 disease*)

The target volume should include neck nodal levels II-IV.

D - Postoperative radiotherapy should be considered for patients with clinical and pathological features that indicate a high risk of recurrence.

A - Administration of cisplatin chemotherapy concurrently with postoperative radiotherapy should be considered, particularly in patients with extracapsular spread and/or positive surgical margins.

Hypopharyngeal Cancer

Early Hypopharyngeal Cancer (Stage I and II)

D - Patients with early hypopharyngeal cancer may be treated by:

- Radical external beam radiotherapy with concomitant cisplatin chemotherapy and prophylactic irradiation of neck nodes (*levels II-IV bilaterally*)
- Conservative surgery and bilateral selective neck dissection (*levels II-IV, where local expertise is available*)
- Radiotherapy alone in those patients who are not suitable for either concurrent chemoradiation or surgery due to comorbidity.

D - Postoperative radiotherapy should be considered for patients with clinical and pathological features that indicate a high risk of recurrence.

A - Administration of cisplatin chemotherapy concurrently with postoperative radiotherapy should be considered, particularly in patients with extracapsular spread and/or positive surgical margins.

Locally Advanced Hypopharyngeal Cancer (Stage III and IV)

A - Patients with resectable locally advanced hypopharyngeal cancer may be treated by:

- Surgical resection
- An organ preservation approach

A - For patients with resectable locally advanced hypopharyngeal cancer who wish to pursue an organ preservation strategy, external beam radiotherapy with concurrent cisplatin chemotherapy should be considered.

A - Neoadjuvant cisplatin/5FU followed by radical radiotherapy alone may be used in patients who have a complete response to chemotherapy.

D - Patients with resectable locally advanced disease should not be treated by radiotherapy alone unless comorbidity precludes both surgery and concurrent chemotherapy.

A - Patients with unresectable disease should be treated by external beam radiotherapy with concurrent cisplatin chemotherapy.

A - In patients medically unsuitable for chemotherapy, concurrent administration of cetuximab with radiotherapy should be considered.

A - Where radiotherapy is being used as a single modality without concurrent chemotherapy or cetuximab, a modified fractionation schedule should be considered.

D - Patients with a clinically N0 neck should undergo prophylactic treatment of the neck, either by selective neck dissection or radiotherapy, including nodal levels II-IV bilaterally.

D - Patients with a clinically node positive neck should be treated by:

- Modified radical neck dissection, with postoperative chemoradiotherapy or radiotherapy when indicated
- Chemoradiotherapy followed by neck dissection when there is clinical evidence of residual disease following completion of therapy (*N1 disease*)
- Chemoradiotherapy followed by planned neck dissection (*N2 and N3 disease*)

The target volume should include neck nodal levels II-IV.

D - In patients with a small primary tumour, locally advanced nodal disease may be resected prior to treating the primary with definitive radiotherapy (*with or without chemotherapy*) and the neck with adjuvant radiotherapy (*with or without chemotherapy*).

D - Postoperative radiotherapy should be considered for patients with clinical and pathological features that indicate a high risk of recurrence.

A - Administration of cisplatin chemotherapy concurrently with postoperative radiotherapy should be considered, particularly in patients with extracapsular spread and/or positive surgical margins.

Oropharyngeal Cancer

Early Oropharyngeal Cancer (Stage I and II)

D - Patients with early oropharyngeal cancer may be treated by:

- Primary resection, with reconstruction as appropriate, and neck dissection (*selective neck dissection encompassing nodal levels II-IV, or II-V if base of tongue*)
- External beam radiotherapy encompassing the primary tumour and neck nodes (*levels II-IV, or levels II-V if base of tongue*)

D - Patients with small accessible tumours may be treated by a combination of external beam radiotherapy and brachytherapy in centres with appropriate expertise.

D - In patients with well-lateralised tumours prophylactic treatment of the ipsilateral neck only is required.

D - Bilateral treatment of the neck is recommended when the incidence of occult disease in the contralateral neck is high (*tumour is encroaching on base of tongue or soft palate*).

D - Postoperative radiotherapy should be considered for patients with clinical and pathological features that indicate a high risk of recurrence.

A - Administration of cisplatin chemotherapy concurrently with postoperative radiotherapy should be considered, particularly in patients with extracapsular spread and/or positive surgical margins.

Locally Advanced Oropharyngeal Cancer (Stage III and IV)

D - Patients with advanced oropharyngeal cancer may be treated by:

- Primary surgery (*if a clear surgical margin can be obtained*)
- An organ preservation approach

Primary Surgery

D - Patients treated by primary surgery who have a clinically node positive neck should have a modified radical neck dissection.

D - Postoperative chemoradiotherapy to the primary site and neck should be considered for patients treated by primary surgery who show high risk pathological features.

A - Administration of cisplatin chemotherapy concurrently with postoperative radiotherapy should be considered, particularly in patients with extracapsular spread and/or positive surgical margins.

Organ Preservation Therapy

A - Radiotherapy should be administered with concurrent cisplatin chemotherapy.

D - The primary tumour and neck node levels (*II-V*) should be treated bilaterally.

A - In patients medically unsuitable for chemotherapy, concurrent administration of cetuximab with radiotherapy should be considered.

A - Where radiotherapy is being used as a single modality without concurrent chemotherapy or cetuximab, a modified fractionation schedule should be considered.

- **D** - Patients with N1 disease should be treated with chemoradiotherapy followed by neck dissection where there is clinical evidence of residual disease following completion of therapy.
- **D** - Patients with N2 and N3 nodal disease should be treated with chemoradiotherapy followed by planned neck dissection.

D - In patients with a small primary tumour, locally advanced nodal disease may be resected prior to treating the primary with definitive chemoradiotherapy and the neck with adjuvant chemoradiotherapy.

Oral Cavity Cancer

Early Oral Cavity Cancer (Stage I and II)

D - Patients with early oral cavity cancer may be treated by:

- Surgical resection, where rim rather than segmental resection should be performed, where possible, in situations where removal of bone is required to achieve clear histological margins
- Brachytherapy in accessible, well demarcated lesions

D - Re-resection should be considered to achieve clear histological margins if the initial resection has positive surgical margins.

D - The clinically N0 neck (*levels I-III [submental and submandibular nodes and upper and middle internal jugular nodes]*) should be treated prophylactically either by external beam radiotherapy or selective neck dissection.

D - Postoperative radiotherapy should be considered for patients who have positive nodes after pathological assessment.

D - Postoperative radiotherapy should be considered for patients with clinical and pathological features that indicate a high risk of recurrence.

A - Administration of cisplatin chemotherapy concurrently with postoperative radiotherapy should be considered, particularly in patients with extracapsular spread and/or positive surgical margins.

Advanced Oral Cavity Cancer (Stage III and IV)

D - Patients with resectable disease who are fit for surgery should have surgical resection with reconstruction.

D - Patients with node positive disease should be treated by modified radical neck dissection.

D - Elective dissection of the contralateral neck should be considered if the primary tumour is locally advanced, arises from the midline, or if there are multiple ipsilateral nodes involved.

A - Radical external beam radiotherapy with concurrent cisplatin chemotherapy should be considered when:

- The tumour cannot be adequately resected
- The patient's general condition precludes surgery
- The patient does not wish to undergo surgical resection

D - Nodal levels I-IV should be irradiated bilaterally.

D - Patients with N1 disease who are receiving radiotherapy to the primary tumour should be treated with chemoradiotherapy where there is clinical evidence of residual disease following completion of therapy.

D - Patients with N2 and N3 nodal disease who are receiving radiotherapy to the primary tumour should be treated with chemoradiotherapy followed by planned neck dissection.

A - In patients medically unsuitable for chemotherapy, concurrent administration of cetuximab with radiotherapy should be considered.

A - Where radiotherapy is being used as a single modality without concurrent chemotherapy or cetuximab, a modified fractionation schedule should be considered.

D - Postoperative radiotherapy should be considered for patients with clinical and pathological features that indicate a high risk of recurrence.

A - Administration of cisplatin chemotherapy concurrently with postoperative radiotherapy should be considered, particularly in patients with extracapsular spread and/or positive surgical margins.

Follow Up, Rehabilitation and Patient Support

Follow Up

Frequency of Follow Up

D - Patients should be seen frequently and regularly within the first three years post-treatment.

Interventions

C - Patients should have access to PET scanning, if appropriate, when recurrence is suspected.

C - Patients' weight should be monitored at follow up.

C - Patients' complaints of pain should be investigated.

A - Pilocarpine (*5-10 mg three times per day*) may be offered to improve radiation-induced xerostomia in those patients with evidence of some intact salivary function, providing there are no medical contraindications to its use.

B - Routine use of chest X-rays or serum markers is not recommended.

A - During follow up, routine supplementation with beta carotene is not recommended.

Rehabilitation

Oral and Dental Rehabilitation

C - Patients receiving oral surgery or radiotherapy to the mouth (*with or without adjuvant chemotherapy*) should have post-treatment dental rehabilitation.

C - Patients should access lifelong dental follow up and dental rehabilitation.

C - Dental extractions in irradiated jaws should be carried out in hospital by a specialist practitioner.

C - Hyperbaric oxygen facilities should be available for selected patients.

Speech and Language Therapy

Dysphagia

C - Head and neck cancer patients with dysphagia should receive appropriate speech and language therapy to optimise residual swallow function and reduce aspiration risk.

C - All patients with oral, oropharyngeal, hypopharyngeal and laryngeal cancer should have access to instrumental investigation for dysphagia.

- Modified barium swallow (MBS) and fibre optic endoscopic evaluation of swallow (FEES) are both valid methods for assessing dysphagia
- The speech and language therapist (SLT) should consider which is the most appropriate for different patients in different settings

C - All patients undergoing chemoradiation should have access to a specialist SLT before, during and after treatment.

Communication

C - Where communication problems are likely to occur, patients should be seen by a specialist head and neck SLT soon after diagnosis and before treatment commences.

C - Patients undergoing laryngectomy should have specialist speech and language therapy to restore voice either by a tracheoesophageal voice prosthesis and/or oesophageal speech.

C - Patients with communication impairment should have access to a SLT.

Nutritional Support

C - After screening, at-risk patients should receive early intervention for nutritional support by an experienced dietitian.

C - The multidisciplinary team should include healthcare professionals skilled in gastrostomy placement.

Patient Support

Information Needs

B - Leaflets about risk factors, prevention and early detection of head and neck cancer should be available in primary care.

Definitions:

Levels of Evidence

1++: High quality meta-analyses, systematic reviews of randomised controlled trials (RCTs), or RCTs with a very low risk of bias

1+: Well-conducted meta-analyses, systematic reviews of RCTs, or RCTs with a low risk of bias

1-: Meta-analyses, systematic reviews of RCTs, or RCTs with a high risk of bias

2++: High quality systematic reviews of case control or cohort studies
High quality case control or cohort studies with a very low risk of confounding or bias and a high probability that the relationship is causal

2+: Well-conducted case control or cohort studies with a low risk of confounding or bias and a moderate probability that the relationship is causal

2-: Case control or cohort studies with a high risk of confounding or bias and a significant risk that the relationship is not causal

3: Non-analytic studies (e.g., case reports, case series)

4: Expert opinion

Grades of Recommendation

Note: The grade of recommendation relates to the strength of the evidence on which the recommendation is based. It does not reflect the clinical importance of the recommendation.

A: At least one meta-analysis, systematic review of RCTs, or RCT rated as 1++ and directly applicable to the target population; *or*

A body of evidence consisting principally of studies rated as 1+, directly applicable to the target population, and demonstrating overall consistency of results

B: A body of evidence including studies rated as 2++, directly applicable to the target population, and demonstrating overall consistency of results; *or*

Extrapolated evidence from studies rated as 1++ or 1+

C: A body of evidence including studies rated as 2+, directly applicable to the target population and demonstrating overall consistency of results; *or*

Extrapolated evidence from studies rated as 2++

D: Evidence level 3 or 4; *or*

Extrapolated evidence from studies rated as 2+

CLINICAL ALGORITHM(S)

An algorithm is provided in the original guideline document that outlines the pathway of care for a person with suspected head and neck cancer.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate management of patients with laryngeal, hypopharyngeal, oropharyngeal and oral cavity cancer to:

- Improve overall survival
- Improve disease-free survival
- Preserve function
- Improve quality of life

POTENTIAL HARMS

Side effects of radiotherapy, chemotherapy, and surgical procedures

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

This guideline is not intended to be construed or to serve as a standard of care. Standards of care are determined on the basis of all clinical data available for an individual case and are subject to change as scientific knowledge and technology advance and patterns of care evolve. Adherence to guideline recommendations will not ensure a successful outcome in every case, nor should they be construed as including all proper methods of care or excluding other acceptable methods of

care aimed at the same results. The ultimate judgement must be made by the appropriate healthcare professional(s) responsible for clinical decisions regarding a particular clinical procedure or treatment plan. This judgement should only be arrived at following discussion of the options with the patient, covering the diagnostic and treatment choices available. It is, however, advised that significant departures from the national guideline or any local guidelines derived from it should be fully documented in the patient's case notes at the time the relevant decision is taken.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

Implementation of national clinical guidelines is the responsibility of each National Health Service (NHS) Board and is an essential part of clinical governance. It is acknowledged that every board cannot implement every guideline immediately on publication, but mechanisms should be in place to ensure that the care provided is reviewed against the guideline recommendations and the reasons for any differences assessed and, where appropriate, addressed. These discussions should involve both clinical staff and management. Local arrangements may then be made to implement the national guideline in individual hospitals, units and practices, and to monitor compliance. This may be done by a variety of means including patient-specific reminders, continuing education and training, and clinical audit.

IMPLEMENTATION TOOLS

Clinical Algorithm
Quick Reference Guides/Physician Guides

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

End of Life Care
Getting Better
Living with Illness
Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness
Timeliness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Scottish Intercollegiate Guidelines Network (SIGN). Diagnosis and management of head and neck cancer. A national clinical guideline. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network (SIGN); 2006 Oct. 90 p. (SIGN publication; no. 90). [511 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2006 Oct

GUIDELINE DEVELOPER(S)

Scottish Intercollegiate Guidelines Network - National Government Agency [Non-U.S.]

SOURCE(S) OF FUNDING

Scottish Executive Health Department

GUIDELINE COMMITTEE

Not stated

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Guideline Development Group: Dr Elizabeth Junor (Chair) Consultant Clinical Oncologist, Western General Hospital, Edinburgh; Mr Kim Ah-See, Consultant Otolaryngologist/Head and Neck Surgeon, Aberdeen Royal Infirmary; Dr Emma Brown, Specialist Registrar in Clinical Oncology, Western General Hospital, Edinburgh; Dr David Carroll, General Practitioner Facilitator in Palliative Care, Grampian; Ms Lisa Cohen, Project Manager, West of Scotland Cancer Awareness Project, Paisley; Dr Don Collie, Consultant Neuroradiologist, Western General Hospital, Edinburgh; Ms Freda Cunningham, Support Care Liaison Officer, St John's Hospital, Livingston; Dr Hamish Greig, General Practitioner, Brechin Health Centre, Angus; Ms Fiona Haston, Head and Neck Clinical Nurse Specialist, Edinburgh Cancer Centre; Dr Janet Ironside, Consultant Clinical Oncologist, Edinburgh Cancer Centre; Dr Roberta James, Programme Manager, SIGN; Dr Charles Kelly, Clinical Oncologist, Northern Cancer Centre, Newcastle; Mr Jamie Lyall, Maxillofacial Surgeon, Queen Margaret Hospital, Dunfermline; Dr Lorna McCaul, Consultant Restorative Dentist, Crosshouse Hospital, Kilmarnock; Mr Ken MacKenzie, Consultant Ear, Nose and Throat Surgeon, Glasgow Royal Infirmary; Dr Torquil MacLeod, Consultant Pathologist, Stirling Royal Infirmary; Ms Angela MacLeod, Charge Nurse, Raigmore Hospital, Inverness; Dr Kathryn McLaren,

Senior Lecturer in Pathology, Royal Infirmary of Edinburgh; Ms Paula Morrison Pharmacist, Beatson Oncology Centre, Glasgow; Dr Tim Palmer, Consultant Pathologist, Raigmore Hospital, Inverness; Ms Tracey Rapson, Statistician, Scottish Cancer Intelligence Unit, Edinburgh; Dr Gerry Robertson, Consultant Clinical Oncologist, Beatson Oncology Centre, Glasgow; Ms Elaine Ross, Macmillan Head and Neck Nurse Specialist, Southern General Hospital, Glasgow; Ms Emer Scanlon, Specialist Speech and Language Therapist, Western General Hospital, Edinburgh; Ms Moira Smith, Senior Dietitian, St John's Hospital, Livingston; Ms Maria Smith, Head and Neck Nurse, Royal Alexandra Hospital, Paisley; Mr David Soutar, Consultant Plastic Surgeon, Canniesburn Plastic Surgery Unit, Glasgow; Mrs Maureen Thomson, Superintendent II – Radiographer, Beatson Oncology Centre, Glasgow; Mr Michael Walton, Patient representative, The Ben Walton Trust, Peebleshire; Ms Joanna Welsh, Information Officer, SIGN

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Declarations of interests were made by all members of the guideline development group. Further details are available from the Scottish Intercollegiate Guidelines Network (SIGN) Executive.

GUIDELINE STATUS

This is the current release of the guideline.

Any amendments to the guideline in the interim period will be noted on Scottish Intercollegiate Guidelines Network (SIGN) Web site.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the Scottish Intercollegiate Guidelines Network (SIGN) Web site.

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- Quick reference guide: Diagnosis and management of head and neck cancer. Edinburgh (UK): Scottish Intercollegiate Guidelines Network, 2006 Oct. 14 p. Available in Portable Document Format (PDF) from the Scottish Intercollegiate Guidelines Network (SIGN) Web site.
- SIGN 50: A guideline developer's handbook. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network. (SIGN publication; no. 50). Available from the SIGN Web site.
- Appraising the quality of clinical guidelines. The SIGN guide to the AGREE (Appraisal of Guidelines Research & Evaluation) guideline appraisal instrument. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network, 2001. Available from the SIGN Web site.

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on January 3, 2007.

COPYRIGHT STATEMENT

DISCLAIMER

NGC DISCLAIMER

The National Guideline Clearinghouse™ (NGC) does not develop, produce, approve, or endorse the guidelines represented on this site.

All guidelines summarized by NGC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public or private organizations, other government agencies, health care organizations or plans, and similar entities.

Guidelines represented on the NGC Web site are submitted by guideline developers, and are screened solely to determine that they meet the NGC Inclusion Criteria which may be found at http://www.guideline.gov/about/inclusion.aspx .

NGC, AHRQ, and its contractor ECRI Institute make no warranties concerning the content or clinical efficacy or effectiveness of the clinical practice guidelines and related materials represented on this site. Moreover, the views and opinions of developers or authors of guidelines represented on this site do not necessarily state or reflect those of NGC, AHRQ, or its contractor ECRI Institute, and inclusion or hosting of guidelines in NGC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding guideline content are directed to contact the guideline developer.

Date Modified: 9/15/2008


DEPARTMENT OF HEALTH & HUMAN SERVICES • USA